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QUICK-ACTING CLAMPING HANDLE FOR DISPOSABLE LIQUID APPLICATORS

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This invention relates to liquid applying devices and, in particular, to disposable liquid applying devices, such as, for example, for the application of paint.

Hitherto, painting and other similar applications of viscous liquids to surfaces has been usually made by means of liquid applying devices, such as paint bushes including bristles attached to a handle. Such paint brushes are not only expensive to purchase, but also involve the nuisance of cleaning them after use, before the paint or other liquid hardens and stiffens their bristles or otherwise renders them unusable. Such brushes, moreover, are subject to the disadvantage of bristles becoming detached and embedding themselves in the layer of paint, requiring careful removal and repainting of the place from which the bristle was removed in order to eliminate the depression left by the detached bristle.

The present invention eliminates the disadvantages of bristle brushes by providing a handle for a disposable liquid applying element which element is inexpensive and therefore can be discarded after use.

Accordingly, one object of this invention is to provide a disposable liquid applying device wherein the liquid, such as paint, is applied by an applicator such as a block of resilient expanded or sponge material adapted to be removably clamped or otherwise held in a special handle which permits quick and easy release of the applicator after use.

Another object is to provide a device of the foregoing character wherein the handle is provided with jaws which grip and tightly hold the applicator during use, yet which can be quickly and easily disengaged from the applicator after use in order to dispose of the used applicator and replace it with an unused applicator.

Other objects and advantages of the invention will become apparent during the course of the following description of the accompanying drawing, wherein:

FIGURE 1 is a side elevation of a disposable liquid applying device, according to one form of the invention, with the disposable applicator gripped between the jaws of the handle;

FIGURE 2 is a top plan view of the disposable liquid applying device of FIGURE 1;

FIGURE 3 is a perspective view of the liquid applying device shown in FIGURES 1 and 2;

FIGURE 4 is an exploded side elevation of the liquid applying device of FIGURES 1, 2 and 3, with the handle jaws open and with the applicator released from their grip;

FIGURE 5 is a left-hand end elevation of the liquid applying device of FIGURE 4, with the jaws open;

FIGURE 6 is a left-hand end elevation of the liquid-applying device of FIGURE 1, with the jaws closed but with the applicator omitted; and

FIGURES 7 to 12 inclusive are perspective views of different shapes of applicators adapted for the coating of jobs of different characteristics.

Referring to the drawing in detail, FIGURES 1 to 4 inclusive show a disposable liquid applying device, generally designated **20**, according to one form of the invention as including generally an applicator holder or gripping handle **22** and a disposable applicator **24** detachably held by the handle **22**. The handle **22** is conveniently formed

from bent sheet material with upper and lower arms **26** and **28** respectively interconnected by a bridge portion **30**. The handle **22** is preferably formed from sheet material having some resilience which normally urges the arms **26** and **28** apart from one other. The upper and lower arms **26** and **28** at their free ends remote from the bridge portion **30** terminate in reversely-bent applicator gripping or clamping jaws **32** and **34** equipped with pointed interfitting teeth **36** and **38** respectively (FIGURE 5), adapted to grip the applicator **24**, as described more fully below.

In order to lock the teeth **36** and **38** in their interfitted position (FIGURE 6), one of the arms **26** or **28**, such as the lower arm **28**, is provided with an upstanding T-shaped locking tongue **40** having an enlarged head **42** and struck up from the arm **28** so as to leave a correspondingly-shaped slot **44** (FIGURE 3). The locking tongue **40** has a shank **46** which is narrower than its head **42** but which is adapted to pass through a T-shaped slot **48** (FIGURE 3) in the upper arm **26** with the shank **46** passing through the narrow longitudinal portion **50** thereof and the head **42** passing through the wide tranverse portion **52** thereof. The opposite edges of the arms **26** and **28** are preferably bent obliquely toward one another as at **54** and **56** respectively so as to prevent the edges from otherwise creasing the palm of the hand and causing discomfort during use.

The applicator **24**, one form of which is best shown in FIGURE 4, is preferably made from a spongy material, such as the expanded plastic material known as expanded polyurethane plastic having open cells or pores **60** adapted to draw in the coating liquid, such as paint, from the can or other receptacle. It thereby carries a supply in its interior which is relatively free from rapid oxidation and hardening which paint undergoes when exposed to the air.

The applicator **24** is in the form of a rectangular block or prism preferably having approximately perpendicular forward and rearward surfaces **62** and **64** respectively meeting at sharp forward and rearward edges **66** and **68** respectively. The handle jaws **32** and **34** are preferably so inclined relatively to their respective handles **26** and **28** as to subtend approximately the same angles between them as the angles subtended by and between the rearward applicator surfaces **64**.

The modified applicators **70**, **72**, **74**, **76**, **78** and **80** shown in FIGURES 7 to 12 inclusive are illustrative of the different shapes into which the applicator may be molded, cut or otherwise formed from the expanded or sponge material in order to adapt it to different types of jobs. The upper or rearward surfaces of these applicators are preferably of substantially the same shape and included angles as the applicator **24** and are therefore designated with the same reference numerals **64** so as to fit the jaws **32** and **34** when the latter are closed upon them, as explained below in connection with the operation of the invention. The forward surfaces of the modified applicators **70** to **80** inclusive are variously shaped to provide a thin or narrow sharp edge portion **82** (FIGURE 7), a rectangular block portion **84** (FIGURE 8), a flat-sided broadsharp wedge **86** (FIGURE 9), with flat sides, a pyramidal pointed forward portion **88** (FIGURE 10), a flat-sided semi-cylindrical forward portion **90** (FIGURE 11) or a perpendicular surfaced wedge portion **92** (FIGURE 12). The applicator **80** of FIGURE 12 is thus seen to be closely similar to the applicator **24** of FIGURES 1 to 4 inclusive and is included with FIGURES 7 to 11 inclusive for comparative purposes.

In the use of the invention, let it be assumed that an application, such as the applicator **24**, has been selected as most suitable for the particular job. Let it also be assumed that the handle **22** has been manipulated so as to cause the arms **26** and **28** to be in their open position. To secure the applicator **24** to the handle **22** (FIGURE